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ABSTRACT

The purpose of this study was to determine if the academic achievement of first grade students was affected by the family employment status in the two-parent family where the mother works, the two parent family where the mother stays home, and the single-parent family where the mother works. Academic achievement was measured using the Comprehensive Test of Basic Skills for Reading and Mathematics. Thirty first-grade students were divided into three groups: 13 students from a two-parent family in which the mother did not work, 10 students from a two-parent family in which both parents worked, and seven students in which a single mother works. Test scores were analyzed using an ANCOVA design. The results showed that there was no significant difference in the mean scores for the groups on either reading or mathematics achievement. It was concluded that the family employment status alone did not have a significant influence on a child's achievement. (CW)

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Maternal Employment and Reading and Mathematics Achievement of Elementary Students

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Abstract

The purpose of this study was to determine if the academic achievement of first grade students was affected by the family employment status in the two parent family where the mother works, the two parent family where the mother stays home and the single parent family with the mother working. Academic achievement was measured using the Comprehensive Test of Basic Skills for Reading and Mathematics. Thirty first grade students were divided into three groups: 13 students from a two parent family in which the mother does not work, 10 students from a two parent family where both parents work, and 7 students with a single parent (mother) working. CTBS scores were analyzed using ANCOVA. The results showed that there was no significant difference in the mean scores for the groups on either Reading or Mathematics achievement. It was concluded that family employment status alone does not have a significant influence on a child's achievement but that many variables must be considered.

Introduction

Significant shifts have occurred in the traditional family work patterns and the traditional family due to the increasing number of female parents both single and married entering the workforce. The increase of women entering the workforce has had effects on the children of both working mothers and the children of those mothers who stay home. The percentage of working mothers has been on the rise showing an increase of 65% of women with children working in the 1980's and it is estimated 80% by the year 2000 (Mercer, 1989). The percentages focus our attention on child development which relates to the academic performance of our children. With the increasing rate of maternal employment the findings of this study are important to parents and educators. Researchers are interested in whether or not maternal employment makes a difference on the academic achievement of children.

Studies show that there are many variables to look at within the structure of the family which affect the achievement of children. There has been an increase in the number of single parent families with mothers acting as the head of the household. There are

attitude changes among the middle class, dual parent households which experience the socioeconomic pressure to compete in today's society (Etaugh, 1984). Latchkey children are the direct result of more women in the workforce. Even though day care of after school care could be an option, in some cases it may be unaffordable or unavailable (Galambos, 1982).

The changing trends may also have positive or negative effects on the achievement of children. In families where both parents work, fathers have become more involved with raising their children. Children have learned to contribute more to the family household responsibilities. Children have become more self sufficient and independent at earlier stages of development. On the other hand, time constraints could pose a problem where parents do not spend the quality time with their children (Weil, 1987). The purpose of this was to investigate the effects of maternal employment on Reading and Mathematics achievement of first graders. This study addressed two hypotheses: 1) There is no significant difference ($p \leq .05$) between the reading achievement of the children of families from single parents working, bother parents working or mothers of dual parent families who stay home. 2) There is no significant difference ($p \leq .05$) between the

mathematics achievement of the children of families from single parent working, both parents working or mothers of dual parent families who stay at home.

Theoretical Perspective and Related Literature

Most studies have shown the amount of quality time spent with children affects the G.P.A. Mothers who were at home and were able to give more attention to their children tend to have children with a higher G.P.A. Similarly, mothers who worked outside the home and were content with their substitute child care also produced higher G.P.A. scores in their children. On a whole, quality time was found significant to the child's performance (Galambos 1982). The fact that the mother worked or not made little difference, however, if the mother was satisfied with her role, it made an impact. Satisfied mothers tended to project positive influences producing well adjusted children. In many cases children of working mothers were more independent, motivated and showed high self esteem (Lerner, 1987).

In cases where the mother worked and their husbands were also content with their wives working, the mothers were found to be happier in their roles

than non-working mothers. This also increased opportunities for the fathers to be more involved with the child rearing. As a result of dual parental involvement, the children showed an increase in performance at school (Etaugh, 1984).

Evidence from other reports suggests that achievement scores are lower in single parent families as opposed to dual parent families. The lack of financial resources is usually prevalent in single families. One variable that was presented as a direct result of low income was the quantity of books in the home. This was a disadvantage to the lower income bracket (Milne, 1983). The hours worked by the mother of both groups showed different effects for different groups. There have been positive effects for the single parent group. This is due primarily to the increased income, and less anxiety over standard of living. For dual parent families, the effects of the mother working and less time available, the increase in income does not directly effect the time lost. To offset this data, parents who showed increased concern for the child's academic achievement tended to have more positive results and the sub-groups made little difference (Myers, 1983).

In evaluating the scores for reading achievement,

in families where there are two parents, whether the mothers are working or not, the scores tended to be higher than in the single parent families. The family structure appeared to make a difference. The income tended to be higher in two parent families giving a financial advantage. Educational learning materials in the home were made affordable. Earlier studies before 1975 have shown differences in reading achievement scores in children seven years of age. There were no effects reported for the girls but there were negative effects for boys if the mother was working. In general, studies of children in working class families whose parents listened to them read at home showed higher reading performance at 7 and 8 years of age than children whose parents did not listen to them read (Hayes, 1983). In addition, the number of children in the family unit has shown to have a negative effect on the reading achievement scores. The study completed by Milne (1983) suggested that reading achievement is largely a function of the home environment whereas the math achievement is not. The mathematics achievement scores were not affected by the number of children in the family unit for all the groups studied except white two parent families. The reviews for mathematics achievement were similar to the reviews for reading

achievement for the three groups. The only difference was in the single parent working which did not make as strong an impact on the mathematics achievement scores as the reading (Milne, 1983).

Research showed that the self concept of the mother whether working or not affected the care of the child by sending a positive or negative message. This portrayed a model for the child to imitate (Engle, 1986) and is reflected in Bandura's Social Learning Theory. Through observation and watching models, children develop and learn. Bandura's theory suggests that children are a product of their environment. They learn from what they observe. Children of single parents have only one role model and this presents limitations on learned behavior. These limitations can be overcome if the single parent has a healthy self esteem. Children of two parents mother working versus not working would also depend on the mothers self esteem (Etaugh, 1988; Engle, 1986).

Methodology

The research design was a causal comparative design. A causal comparative design was used since the independent variable, the family employment status, could not be manipulated. Analysis of Covariance

(ANCOVA) was the primary statistical model used. The covariates were the pretest scores for Reading and Mathematics. ANCOVA was used because of the small sample size and to adjust out the initial differences of the subjects using the pretest scores as covariates. ANCOVA was the best statistical model for this situation (Huck, Cormier & Bounds, 1974). The basic assumptions for ANCOVA were satisfied. Linearity of regression of "Y" on "X" was satisfied by use of a scattergram. Tests for homogeneity of regression indicated parallel slopes.

The source group was composed of thirty first grade students from a rural school district in South Carolina. Subjects ranged from middle to low income backgrounds. Students were divided into three groups. One group had 13 students from a two parent family where the mother stays home. There were 7 males and 6 females with 85% being white and 15% Black. The second group had 10 subjects with both parents working. Five males and five females were in this group with 60% being white and 40% black. The last group had seven subjects. They were from a single parent family with the mother working. This group had 3 males and 4 females with 60% being white and 40% black.

The instrument used to conduct this study was the Comprehensive Tests of Basic Skills. It was designed to measure achievement of overall basic skills. The CTBS for reading measures skills in word attack, vocabulary, reading comprehension, and language expression. The CTBS for mathematics measures mathematics computation, concepts and application. The CTBS uses the Kuder-Richardson Formula (kr20) which is a method used to measure the internal consistency of the test. The reliability values for the first grade are .89 for total reading and .84 for total mathematics.

Results

There was no significant difference in the adjusted CTBS Reading posttest scores for the three groups ($F = 1.13$, $p = .29$). The mean and standard deviation scores are shown in Table 1.

Insert Table 1 about here

Also, there was no significant difference in the adjusted CTBS mathematics posttest scores for the three

groups (F = 3033, p = .06). However, the computed "p" value was very close to the significance level of ".05" that was established. The mean and standard deviation scores are shown in Table 2.

Insert Table 2 about here

Discussion

The findings of this study indicated that there was significant differences in Reading and Mathematics achievement of first grade students based on maternal employment status. This study tended to agree with previous studies. Research by Kamerman and Hayes (1982) concluded that work per se is neither beneficial nor detrimental to the child but rather that certain conditions minister its effects. In addition, research by Milne (1986) comparing reading and mathematics CTBS scores with family employment status confirms that different variables such as time and resources provided by the parents reflect positive attitudes in relationship to family income, mother's education and the parents' educational expectations. Factors directly affecting educational outcomes are the number

of books in the home at child's reading level, parents' participation in the child's education through helping the child with homework, attending school conferences, and having high educational expectations for the child tends to have a positive effect on both reading and mathematics achievement for each of the family groups. Other variables such as socioeconomic status, racial background, conditions of maternal employment, and the attitudes of both parents are important factors to consider when judging the effects on children's achievement.

It is recommended that this study be replicated to include a larger sample, students at different grade levels, minority groups, etc. It would also be of interest to replicate the study with subjects from a suburban community. Additionally, research projects may get some interesting results from studying gifted or special education students.

No study alone will provide the catalyst for change in education to meet the needs in the growing popularity of maternal employment. The major movement in the educational process should be to get parents more involved with their child's educational achievements through creative and innovative methods. Some programs for parents could possibly be

invitational evening workshops for parents for home study enrichment, home-based curriculum materials, and parent support groups. Programs for children could be to expand after school care, day care and summer school programs in the schools. With the increase of our aging society perhaps tapping into this resource by using grandparent participation in child care school programs. The educational system must anticipate family structural changes and family employment patterns rather than reacting to them as they occur. Educators must be proactive instead of reactive.

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Table 1

Means and Standard Deviations for Reading Scores

Groups	N	Adjusted Posttest Means	Standard Deviations
Both parents working	10	498.9	78.0
Mother Home (two parent family)	13	477.0	47.3
Single parent working	7	446.7	74.8

Table 2

Means and Standard Deviations for Mathematics Scores

Groups	N	Adjusted Posttest Means	Standard Deviations
Both parents working	10	515.5	83.6
Mother home (two parent family)	13	505.2	76.7
Single parent	7	420.1	84.8